

## **System Inspector Manual**

### **CHAPTER 4 - REGULATIONS**

Regulations governing system inspections and system inspectors are found in Title 5 at 310 CMR 15.300 through 15.354. These regulations describe the purpose and intent of the inspection process and the responsibilities of the Department, system inspectors and owners. This subpart of the regulations contains inspection and maintenance requirements for all systems, both those already constructed and those that will be built under the new rules. Among the most significant provisions are:

#### **Inspection at time of transfer and other circumstances**

Inspections of septic systems are required within 2 years prior to the transfer of property, unless weather conditions preclude such inspection in which case the inspection may be completed as soon as weather permits but no longer than 6 months after the transfer, provided the seller notifies the buyer when there is a change in use, increase in use for which a building permit is required, or a variety of other circumstances (see sections 15.301 and 15.302). Inspections must be conducted by approved system inspectors, who are either designated in the code as being qualified by rule or have passed an examination given by the DEP. Professional engineers, sanitarians, or health officers have been designated as being previously qualified because of their backgrounds and experience. Board of health members or agents, home inspectors, licensed septage haulers or installers, or others experienced in the field must take a training course and pass an exam. See sections 15.301 and 15.340.

#### **Definition of failed systems**

The new rules contain specific definitions of systems failing to protect public health and the environment that must be upgraded. These include: obvious hydraulic failures (breakout or backup); systems located within Zone I of public water supply wells, within 100 feet of public water supply reservoirs or their tributaries, or within 50 feet of surface water bodies; or systems found to be a specific health or environmental threat. See section 15.303. These systems must be upgraded within two years of discovery of the problem. The upgrade standard is maximum feasible compliance with the new rules. The Board of Health may require an earlier upgrade if there is an imminent health hazard, or may allow a longer time, under an enforceable agreement, if a longer time is needed to achieve an environmentally superior solution. See section 15.305.

#### **Large systems.**

Existing systems over 10,000 gpd must be inspected by December 1, 1996 and once every three years thereafter. In addition, the new rules classify as significant threats all systems serving facilities with design flows of 10,000 gpd or more which are located within zones of contribution of public water supply wells, within 400 feet of water supply reservoirs, or within 200 feet of their tributaries. These systems must be replaced by treatment plants within five years of discovery, unless the owner demonstrates that the water quality standards are being met at the property boundary or in the receiving waters. The Department may allow a longer time, under an enforceable agreement, if needed to achieve an environmentally superior solution. See section 15.304.

#### **Pumping**

The new rules establish a performance standard for when pumping septic tanks is required, but also recommend pumping at least once every three years, and at least once every year for homes with garbage grinders. See section 15.351.

The remainder of this section is presented in outline form to facilitate an understanding of the regulations.

I. Purpose and General Provisions:

- A. To identify systems which are failing to operate properly;
- B. To educate homeowners about the importance of proper maintenance of systems;
- C. To provide an objective basis for requiring upgrades;
- D. Regulations specify owner/operator responsibilities for inspection, maintenance, and upgrade of systems;
- E. Instruct the Department to produce educational materials.

II. System Inspection (15.301):

- A. Required at or within two years prior to transfer of title:
  - 1. May be extended for three years if system has been pumped annually;
  - 2. If weather precludes inspection, up to six months after sale to complete inspection if seller notifies buyer in writing of inspection requirements.
- B. Transactions not requiring an inspection:
  - 1. Taking a security interest in a property (e.g., issuing a mortgage);
  - 2. Refinancing;
  - 3. Change in the form of ownership among the same owners (e.g., forming a family trust);
  - 4. Adding or deleting a spouse to the deed;
  - 5. Appointment or change of guardian, conservator or trustee.
- C. Applicability to Specific Transfers:
  - 1. Condominiums: Condo association is responsible for inspection, maintenance and upgrades.
    - a. If the facility has 5 or more units, each system must be inspected by

December 1, 1996 and at least once every three years thereafter.

b. If the facility has less than 5 units:

1. Each system is to be inspected by December 1, 1996 and at least once every three years thereafter; or
2. At the time of transfer of title of any unit, the system serving that unit shall be inspected in accordance with the time of transfer regulations.

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2. Foreclosure: Inspection must be within two years prior or six months after execution of memorandum of sale. Can be extended to three years prior if system has been pumped at least once a year.
3. Inheritance (with or without a will): Unless inherited by a spouse, the inspection must be within two years prior or one year after the will being allowed or appointment of an administrator. Can be extended to three years prior if system has been pumped at least once a year.
4. Legal life estate or life (or term of years) interest in trust: Inspection must be within two years prior or six months after death of tenant or expiration of interest in trust for a term of years unless the interest passes to a spouse. Can be extended to three years prior if system has been pumped at least once a year.
5. Inter-family transfers with new parties (e.g. parents deed property to children): Inspection must be within two years prior to transfer or six months after if weather conditions preclude an inspection at transfer. Can be extended to three years prior if system has been pumped at least once a year.
6. Tax taking by federal, state, or municipal government: Inspection must be within two years prior to transfer by governmental entity to buyer or within six months after right of redemption provided that the governmental entity notifies the buyer in writing of the inspection requirements. Can be extended to three years prior if system has been pumped at least once a year.
7. Levy of execution that results in a conveyance of property: Inspection must be within two years prior to officer's deed of debtor's interest or within six months after the expiration of the right of redemption provided that the officer notifies the buyer in writing of the inspection requirements. Can be extended to three years prior if system has been pumped at least once a year.
8. Bankruptcy: Inspection must be within two years prior to transfer by bankruptcy trustee to buyer or within six months after the transfer provided

that the debtor notifies the buyer in writing of the inspection requirements. Can be extended to three years prior if system has been pumped at least once a year.

9. Change in ownership or form of ownership where new parties are introduced: Inspection must be within two years prior to transfer or six months after if weather conditions preclude an inspection at transfer provided that the new party is notified in writing of the inspection requirements. Can be extended to three years prior if system has been pumped at least once a year.

D. Inspections not required at time of transfer if:

1. Certificate of compliance for the system has been issued within past two years;
2. Owner of the system or buyer has enforceable agreement with the approving authority to upgrade, connect to sewer or connect to shared system within two years; or
3. The town has a DEP approved inspection program.

E. Required for change in use or expansion of use of facility served by the system if building or occupancy permit is required.

1. Upgrade required if:
  - a. System is a cesspool;
  - b. Meets failure criteria;
  - c. Is a significant threat to public health safety, environment;
  - d. Subject to enforcement order or court order requiring upgrade.
2. Upgrade not required if system is designed to handle the design flows resulting from the proposed change in use or expansion, unless triggered as described above.
3. For a proposed addition or footprint change to an existing structure, the inspection shall include an assessment of the location of existing components to insure that proposed construction will not be placed over components.
4. If official records are available for locations, inspection not required for footprint changes.

F. Systems with flow of 10,000 gpd or greater at full build out:

1. Inspected by December 1, 1996;

2. Shall be re-inspected at least once every three years.
- G. Shared systems shall be inspected annually.
- H. If a facility is divided or ownership of two or more facilities is combined, inspection shall be completed within 30 days.
- I. All systems shall be inspected when owner/operator is required to do so by the local approving authority or the Department.
- J. Inspection results:
1. Required submittals:
    - a. To the approving authority on a form approved by the Department;
    - b. To the Department for systems with flows over 10,000 gpd;
    - c. To the Department for shared systems;
    - d. Voluntary assessments are allowed and do not have to be reported to the approving authority if the assessment was not triggered by an inspection requirement.
- K. Failure to have a system inspected or using a system requiring an inspection according to the regulations (15.301(1) through (7)) constitutes a violation.
- III. Criteria for Inspection (15.302)
- A. Intent is to provide reasonable guidelines for inspections in as non-intrusive a manner as possible.
- B. Obtain the following information:
1. General description of components and layout;
  2. Source/type and design flow of sewage;
  3. Analysis of failure criteria;
  4. Water use records for previous two years if a public water supply and records are available;
  5. Description of the septic tank;
    - a. Approximate age, size, condition;

- b. Distance between bottom of the scum/grease layer and bottom of outlet tee;
  - c. Distance between top of grease/scum layer and top of outlet tee;
  - d. Thickness of grease/scum layer;
  - e. Depth of sludge layer and distance from sludge to outlet tee;
  - f. Condition of inlet and outlet tees;
  - g. Evidence of leakage into or out of tank;
  - h. Evidence of effluent backup;
- 6. Description of distribution box;
  - a. Evidence of solids carryover
  - b. Leakage into or out of the box
  - c. Flow equally divided
  - e. Evidence of backup
- 7. Description of soil absorption system
  - a. Signs of hydraulic failure
  - b. Condition of surface vegetation
  - c. Ponding within disposal area
  - d. Encroachments into disposal area
  - e. Other sources of hydraulic loading

C. Minimum requirements:

- 1. "At a minimum, the septic tank and distribution box if present, or cesspool, if present, shall be located and inspected, and reasonable professional efforts made to locate and identify other components and features, as described in 310 CMR 15.302(2)."
- 2. Reasonable efforts must be made to complete the information on the inspection form:
  - a. Groundwater determination;
  - b. Location of components.

IV. Systems Failing to Protect Public Health Safety and the Environment (15.303):

A. Failure criteria applicable to all systems:

- 1. Backup of sewage into the facility;
- 2. Discharge to ground or surface water;
- 3. Static level in d-box above outlet invert;
- 4. Liquid depth in a cesspool is less than 6 inches from pipe invert or available volume is less than 1/2 day's design flow;
- 5. Septic tank or cesspool pumped more than 4 times a year;
- 6. Metal septic tank or otherwise structurally unsound;

7. Cesspool, privy or SAS extends below high groundwater elevation.
- B. Failure criteria applicable to cesspools and privies:
    1. Cesspool or privy is within 100 feet of a surface water supply or tributary;
    2. Cesspool or privy is within Zone I of a public well;
    3. Cesspool or privy is within 50 of a private water supply well;
    4. Cesspool or privy is less than 100 feet but greater than 50 feet from a private well unless analysis shows potability.
  - C. Further evaluation required for cesspools and privies near water resources:
    1. Within 50 feet of a surface water;
    2. Within 50 feet of a bordering vegetated wetland or a salt marsh;
    3. Systems are assumed to PASS unless approving authority determines that the system is not functioning properly.
  - D. Further evaluation required for systems with septic tanks and soil absorption systems near drinking water supplies:
    1. If the soil absorption system is within 100 feet of a surface water supply or tributary to a surface water supply;
    2. If the soil absorption system is within a Zone I of a public well;
    3. If the soil absorption system is within 50 feet of a private well;
    4. If the soil absorption system is less than 100 feet but greater than 50 feet from a private well unless analysis shows potability;
    5. Systems are assumed to FAIL unless approving authority determines that the system is functioning properly.
  - E. System shall be upgraded upon order of Department or local approving authority if specific circumstances exist that indicate a threat to the public health or environment.
- V. Large Systems which Fail to Protect or which Threaten Public Health and Safety and the Environment (15.304):
    - A. Systems serving a facility with a design of 10,000 gpd or greater and less than 15,000 gpd are subject to the failure criteria described above.
    - B. Considered a significant threat if:

1. System located within 400 feet of surface water supply;
2. System located within 200 feet of tributary to surface water supply;
3. System located in a nitrogen sensitive area.

C. Upgrade requirements

1. Owner/operator to bring system into compliance with Groundwater discharge Permit Program unless:
  - a. Department can determine if this is manifestly unjust; and
  - b. Department can determine if there are other means to provide the same degree of environmental protection.
2. Application for above determination must be made two years prior to date on which the owner needs to file for a discharge permit.
3. In making upgrade determinations the Department can impose appropriate conditions.

VI. Deadlines for Completion of Upgrades (15.305):

A. Upgrade within two years of discovery:

1. Shorter time may be set by approving authority;
2. Continued use may be allowed if there is an enforceable schedule for upgrade, connection to sewer or connection to a shared system.

B. Upgrades for systems with flows of 10,000 gpd or greater but less than 15,000 gpd within five years based on enforceable schedule:

1. Shorter time may be set by Department if imminent hazard exists;
2. Continued use allowed if necessary to implement an environmentally superior solution:
  - a. Requires enforceable commitment to perform interim measures;
  - b. Expires within seven years or failure to meet interim deadlines.

C. Owner to insure no backup or discharges.

D. Systems to be abandoned in accordance with the regulations.

VII. Approval of System Inspectors (15.340):

- A. Professional Engineers, Registered Sanitarians and Certified Health Officers are automatically approved;



- B. Board of Health members and agents, EITs, licensed septage haulers, professional home inspectors, licensed system installers and others with demonstrated one year of relevant experience are approvable after taking the course and passing the examination;
- C. The Department is to maintain a list of all approved inspectors;
- D. The Department may revoke or suspend an approval if a hearing determines falsification or fraudulence in preparing a report;
- E. Violation for a person to falsify, misrepresent or fraudulently alter a report;
- F. Inspectors must submit to the approving authority the results of the inspection on a Department approved form;
- G. Inspectors may act as an agent of the approving authority or as an agent of the owner.

VIII. System Pumping and Routine Maintenance (15.351):

- A. Septic or cesspool pumped when necessary:
  - 1. Sludge layer within 12 inches of outlet tee;
  - 2. Top of scum layer within two inches of top of outlet tee;
  - 3. Bottom of scum layer within two inches of bottom of outlet tee;
  - 4. Generally necessary once every three years;
  - 5. When pumped condition noted on a pumping form and submitted by pumper to approving authority.
- B. Grease traps:
  - 1. Must be inspected monthly;
  - 2. Pumped every three months or when grease level is 25% of volume, whichever is sooner.

IX. Increase in Design Flow to System (15.352):

- A. Cannot increase flow beyond existing capacity.
- B. Must upgrade system to increase flow beyond design capacity

X. Emergency Repair (15.353):

- A. Limited to:
  - 1. Pumping to prevent backup or breakout;
  - 2. Repair or replace one or more structural components within 30 days.

- B. Other than pumping all emergency repairs followed within 30 days by application for a Disposal System Construction Permit (DSCP).
- C. Emergency pumping must be reported to the approving authority by the pumper.

XI. Abandonment of Systems (15.354):

- A. When use is discontinued, considered abandoned and further use is prohibited.
- B. Use of septic system as part of sewer tie-in requires prior written approval of the Department.
- C. Procedure for abandonment:
  - 1. Apply to approving authority;
  - 2. Upon approval septic tank to be pumped;
  - 3. Tank excavated and removed or the bottom ruptured and the tank filled with clean sand.